



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,047	03/15/2005	Silvain Buche	JMYT-329US	1649
23122	7590	02/08/2007	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			NGUYEN, KHANH TUAN	
			ART UNIT	PAPER NUMBER
			1751	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/08/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/501,047	BUCHE ET AL.
	Examiner Khanh T. Nguyen	Art Unit 1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 15 March 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-17 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 08 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The preliminary amendment filed on 07/08/2004 is entered and acknowledged by the Examiner. Claims 1-17 are currently pending in the instant application.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 03/15/2005 has been regarded by Examiner and made of record in the application file.

***Specification***

4. The disclosure is objected to because of the following informalities: A brief description of the drawing is required. The brief description of the drawing is added after the "Summary of the Invention" and before the "Detailed Description of the Invention". Applicant is suggested to include section heading in the application.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 6, 9 and 14-15 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative under 35 U.S.C. 103(a) as obvious over Hitomi (U.S Pat 6,528,201).

Regarding claims 1-3, 6, 9 and 14-15, Hitomi discloses a solid polymer electrolyte-catalyst for fuel cell comprising one or more electrocatalyst metals (i.e. platinum) and one or more proton-conducting polymers (i.e. PTFE, perfluorocarbonsulfonic acid or styrene-divinylbenzene-based sulfonic acid type), particulate graphite (i.e. carbon black), wherein the electrocatalyst ink further comprises an organic solvent and water mixture. [(Col. 1, lines 55-67), (Col. 2, lines 1-11) and (Col. 7, lines 25-40)].

Although Hitomi generally teaches the inclusion of particular graphite, platinum and proton-conducting polymers in their electrocatalyst ink composition, the reference

does not require these components with sufficient specificity to constitute anticipation.

In the alternative that the above disclosure is insufficient to anticipate the above listed claims, it would have nonetheless been obvious to the skilled artisan to produce the claimed composition, as the reference teaches each of the claimed ingredients within the claimed proportions for the same utility. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 5, 7, 8, 10-13 and 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Hitomi (U.S Pat 6,528,201) as applied to claims 1-3, 6, 9 and 14-15 above, and further in view of Denton et al. (U.S Pat. 5,716,437 hereinafter, "Denton").

Hitomi is relied upon as set forth above. With respect to instant claims 4, 16 and 17, Hitomi do not disclose an electrocatalyst ink according to claim 1, wherein the electrocatalyst is either a supported metal catalyst or an unsupported finely divided metal black.

In the same field of endeavor, Denton discloses an electrocatalyst ink according to claims 4, 16 and 17, wherein the electrocatalyst is either a supported metal catalyst (Col. 3, lines 1-8) or an unsupported finely divided metal black (Col. 2, lines 57-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a supported or unsupported metal catalyst in an electrocatalyst ink composition, as taught by Hitomi in view of Denton, in order to provide a printing processes for high performance electrodes in fuel cells and other electrochemical devices.

Regarding claim 5, Denton further discloses an electrocatalyst ink according to claim 4, wherein the electrocatalyst metal is supported on a high surface area particulate carbon (Col. 2, lines 23-31).

Regarding claim 7, Denton further discloses an electrocatalyst ink according to claim 1, wherein the solids content of the electrocatalyst ink is between 5 and 50 weight % (Col. 4, lines 52-60).

Regarding claim 8, Denton further discloses an electrocatalyst ink according to claim 1, wherein the weight ratio of the electrocatalyst: proton-conducting polymer is between 1:1 and 10:1 (Col. 5, lines 4-7).

Regarding claim 10, Denton further discloses a process for preparing an

electrocatalytic layer using an electrocatalyst ink according to claim 1, said process comprising applying the electrocatalyst ink to a substrate (Col. 2, lines 22-29).

Regarding claim 11, Denton further discloses a gas diffusion electrode comprising a gas diffusion substrate and an electrocatalytic layer prepared using an electrocatalyst ink according to claim 1 (Col. 2, lines 22-29).

Regarding claim 12, Denton further discloses a catalyst coated membrane comprising a solid polymer membrane and an electrocatalytic layer prepared using an electrocatalyst ink according to claim 1 (Col. 2, lines 50-53).

Regarding claim 13, Denton further discloses a membrane electrode assembly comprising an electrocatalytic layer prepared using an electrocatalyst ink according to claim 1 [(Col. 2, lines 40-43) and (Col. 3, lines 22-29)].

### ***Conclusion***

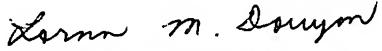
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh T. Nguyen whose telephone number is (571) 272-8082. The examiner can normally be reached on Monday-Friday 8:00-5:00 EST PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Khanh T. Nguyen  
Examiner  
01/24/2007

  
LORNA M. DOUYON  
PRIMARY EXAMINER